



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

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May 15, 2012

Ref: 8EPR-EP

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Wyoming Department of Environmental Quality  
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Cheyenne, WY 82002

Subject: EPA's Comments on the Draft Use  
Attainability Analysis for Recreation

Dear Ms. Patterson:

The U.S. Environmental Protection Agency (EPA) Region 8's Water Quality Unit (WQU) has reviewed the draft "Categorical Use Attainability Analysis for Recreation" received February 8, 2012. We appreciate the opportunity to review and provide comments prior to public notice. The Wyoming Department of Environmental Quality (WDEQ) is proposing designated recreation use changes for many of the state's waterbodies based on a novel Geographic Information System (GIS)-based statewide use attainability analysis (UAA). The EPA supports state efforts to use technology to make environmental decisions, including the use of GIS data as lines of evidence. Our intent in sending these comments is to help strengthen the state's draft UAA. We would like to discuss with WDEQ how this new approach to UAAs could satisfy the regulatory requirements for water quality standards. The EPA looks forward to working with the WDEQ on this project and offers the following comments for the state's consideration.

### **Summary of Proposed Use Changes**

Wyoming's water quality standards (Water Quality Rules and Regulations, Chapter 1) include designated uses, which are identified in Section 3. Wyoming's water quality standards group (or bundle) designated uses in different Classifications (Section 4). All of the Classifications include recreation as a designated use, but that could be either primary (potential for ingestion or immersion) or secondary contact recreation. WDEQ is proposing to change the designated recreation use from primary to secondary contact recreation for 88% of the total stream miles and 9% of total lake acres, resulting in the application of less-stringent criteria for *E. coli* bacteria.<sup>1</sup> Currently, all waters of the state are designated for primary contact recreation from May 1 through September 30, except for 11 waterbodies that the EPA recently approved for secondary contact designated uses.<sup>2</sup>

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<sup>1</sup> The primary contact magnitude for the *E. coli* criterion is a geometric mean of 126 organisms per 100 milliliters, and for secondary contact it is a geometric mean of 630 organisms per 100 milliliters (see Section 27(a) and (b)).

<sup>2</sup> See the EPA's action letter dated December 28, 2011.

## Federal Regulatory Context

Section 101(a)(2) of the CWA states the national interim goal of achieving “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water” wherever attainable. CWA section 303(c)(2)(A) requires water quality standards to “protect the public health and welfare, enhance the quality of water, and serve the purposes” of the CWA. The EPA’s regulation at 40 CFR Part 131 interprets and implements these provisions through a requirement that water quality standards protect the uses specified in section 101(a)(2) (i.e., aquatic life and recreation) unless those uses have been shown to be unattainable. EPA’s longstanding interpretation is that the water quality standards regulation establishes a rebuttable presumption that the uses specified in section 101(a)(2) are attainable unless demonstrated otherwise.<sup>3</sup> The mechanism for making such a demonstration is a UAA, defined at 40 CFR § 131.3(g) as “a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in § 131.10(g).” The EPA’s regulation also specifies when a UAA is required (40 CFR § 131.10(j)):

A State must conduct a use attainability analysis as described in 40 CFR §131.3(g) whenever: (1) the State designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act, or (2) the State wishes to remove a designated use that is specified in section 101(a)(2) of the Act or to adopt subcategories of uses specified in section 101(a)(2) of the Act which require less stringent criteria.

A state must make any proposed water quality standards revision and the supporting analyses available to the public for review (40 CFR § 131.20(b)) and include with its submission the methods and supporting analyses conducted to support the revision (40 CFR § 131.6(b)).

The EPA's water quality standards regulation states in 40 CFR § 131.10(g) that “States may remove a designated use which is not an existing use, as defined in section 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible” based on one of the six factors in 40 CFR § 131.10(g), which are included in Wyoming’s Section 33(b). Although 40 CFR § 131.10(g) does not include a factor allowing physical features, location, public access, or public safety to be the sole basis for determining a recreation use is unattainable, the EPA has encouraged states to consider these variables because they can be important in determining whether a factor listed in 40 CFR § 131.10(g) is truly preventing the attainment of a recreation use.<sup>4</sup> For example, a stream may have low flow (§ 131.10(g)(2)) that may prevent swimming by adults, but if it is located in an urban area where children could play, ingest, or immerse themselves in the water, that is an indication that low flow may not prevent attainment of the use.

## Summary of Draft UAA for Recreation

In Spring 2009, the WDEQ began developing a GIS-based categorical UAA for recreation. The UAA includes numerous GIS layers such as stream segments, roads, trails/trailheads, campgrounds/campsites,

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<sup>3</sup> See 48 Fed. Reg. 51400, 51,400 – 51,401 (November 8, 1983) and 63 Fed. Reg. 36742, 36749 (July 7, 1998). This approach was upheld in Idaho Mining Association v. Browner, 90 F.Supp. 2d 1078, 1092 (D. Id. 2000) and Kansas Natural Resource Council v. Whitman, 255 F.Supp.2d 1208, 1213 (D. Kan. 2003).

<sup>4</sup> (63 Fed. Reg. 36742, 36756 (July 7, 1998) and the EPA Region 8’s 1992 Guidance *Recreation Standards and the CWA Section 101(a)(2) “Swimmable” Goal* at <http://www.epa.gov/region8/water/wqs/wqsdocs.html>

population centers, schools, land management, and fish data. Default primary designations were assigned to:

- The largest stream in a six digit hydrologic unit code (HUC6);
- Wild and scenic rivers;
- All waterbodies greater than 4 acres in size;
- Waters within municipalities and high density housing areas;
- Waters within national parks, state parks, historic sites, and wildlife habitat management areas;
- Waters within 1.5 miles of a school; and
- Waters within 0.5 miles of an established campground, United States Forest Service (USFS) recreation site, natural area, and Wyoming Department of Transportation rest area.

For the waters not defaulted into primary contact recreation, each data layer assigns different weights to the stream segment and calculates an overall score that determines whether the segment will be designated primary or secondary contact. The model was calibrated with 151 WDEQ field surveys and validated with 720 Conservation District field surveys.

Usually, UAAs are completed on a site-specific basis. However, Section 2.9 of the EPA's *Water Quality Standards Handbook*<sup>5</sup> discusses the ability of states to conduct UAAs for groups of waters, sometimes called a categorical UAA. Specifically, the Handbook says "States may also conduct generic use attainability analyses for groups of water body segments provided that the circumstances relating to the segments in question are sufficiently similar to make the results of the generic analyses reasonably applicable to each segment." While it is unclear what category of waters the state intends to demonstrate are "sufficiently similar," since the UAA addresses all waters of the state, the UAA appears to be based on factor 2 and 5 (discussed further below).

## General Comments

### *Strengthening the Connection to 131.10(g)*

The EPA suggests that the draft UAA could be improved by clearly describing which 131.10(g) factors WDEQ is relying on as a basis for the use changes. Based on the following statement in the conclusion, it appears WDEQ is citing factor 2 and 5: "The GIS layers used in the model represent the most important 'factors affecting the attainment of the use'... These factors included physical and biological information for each waterbody, fulfilling the information requirements for UAAs outlined in state and federal regulations ... 40 CFR § 131.10(g)(2) and (5)." We note that while 40 CFR § 131.10(g)(5) is limited to aquatic life use,<sup>6</sup> the EPA has approved removal of primary contact as a designated use based on 40 CFR § 131.10(g)(2): "natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met."

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<sup>5</sup> <http://water.epa.gov/scitech/swguidance/standards/handbook/chapter02.cfm#section9>

<sup>6</sup> "Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of *aquatic life protection uses*" [emphasis added]

The draft UAA would benefit from an explanation of the connection between the GIS layers and the 131.10(g) factors. Of the sixteen GIS layers used in the model, it appears there is only one layer related to factor 2 – the use of the National Hydrography Dataset (NHD) to determine whether a stream is ephemeral, intermittent, or perennial. As we think it could improve the draft UAA, we would like to discuss incorporating additional lines of evidence, either in the text of the UAA or as additional GIS layers, such as precipitation data, evaporation rate, flow or depth, to strengthen the connection to factor 2. Our understanding is that the hydrologic classifications of the high resolution NHD are based on U.S. Geological Survey topographic maps and originally only included the perennial and intermittent classifications. Further, the ephemeral waters in Wyoming were added by the U.S. Forest Service using interpretation of crenulations in elevation contours and were not verified in the field.<sup>7</sup> The EPA is not aware of any analysis of the accuracy of the high resolution NHD hydrologic classifications, either nationally or in Wyoming.<sup>8</sup> Factor 2 does mention ephemeral and intermittent waters, and we suggest that the UAA explain how the NHD hydrologic classification precludes attainment of the primary contact recreation use for these waters. The UAA should also articulate how factor 2 relates to the perennial streams and lakes proposed for secondary contact. In addition, our understanding is that the NHD hydrologic classifications are based on the natural flow. If that is the case, to be consistent with factor 2, the UAA should account for effluent discharges that change the natural flow in a way that allows for primary contact to be attained (e.g., ephemeral stream becomes perennial). Our understanding is that WDEQ has a GIS layer of the permitted discharges that could address this issue.

The majority of the GIS layers appear to evaluate remoteness and access, which EPA has encouraged states to consider, but cannot be the sole basis for a recreation use change because changes must be based on a 131.10(g) factor. If any of the proposed use changes are based solely on remoteness and access, this could be addressed by having the model filter for waters with a factor 2 connection and consider the data layers related to remoteness and access in a later decision step. We would like to discuss options such as performing a sensitivity analysis for these layers to determine which layers have the most significant effect on the outcome and whether there is redundant input, and therefore opportunities to simplify the model. In summary, it is important that the UAA demonstrate how the model relates to the specific 131.10(g) factors WDEQ is relying on as the justification for the use changes because the factor precludes attainment of the designated use.

### *Designating Uses in Wyoming's Water Quality Standards*

Currently, Sections 4(e) and 27 reference the Wyoming Surface Water Classification List to determine what the designated recreation use is for a specific waterbody. It is important that WDEQ, the public, the EPA, and others be able to identify the revised recreation designated uses for each waterbody, either by reviewing the Wyoming Surface Water Classification List or via some other means, such as a GIS layer available on WDEQ's website. We recommend that Sections 4(e) and 27 be revised to reference where the designated uses for recreation will be. This revision is important so that Wyoming water quality standards remain in compliance with 40 CFR § 131.6(a). In order for EPA to complete final action on the recreation use changes as required under CWA § 303(c) and 40 CFR § 131.5, the state must adopt water quality standards that identify the revised designated uses for each waterbody.

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<sup>7</sup> USGS National Hydrography Dataset Newsletter, Vol. 6, No. 11, September 2007.

<sup>8</sup> USGS National Hydrography Dataset Newsletter, Vol. 11, No. 6, April 2012.

### *Public Notice and Comment; Requirements for Submission*

The EPA's regulations at 40 CFR §131.21(b) requires the state to provide the proposed water quality standards revision and supporting analysis to the public prior to the hearing. As discussed above, section 131.6 requires the state to submit for the EPA's review: (1) use designations consistent with CWA section 101(a) and 303(c)(2); (2) methods used and analysis conducted to support the water quality standards revisions; and (3) general information which will aid the EPA in determining the adequacy of the scientific basis of the standards which do not include the uses specified in section 101(a)(2). Section 131.5(a) provides that the EPA's review and approval include, in part, a determination of: (1) whether the state adopted uses which are consistent with the CWA; and (2) whether the state standards which do not include the uses specified in CWA section 101(a)(2) are based upon the appropriate technical and scientific data and analysis. The EPA's approval is based on whether the requirements of 40 CFR § 131.5 and 131.6 are met. Therefore, the EPA and the public need to have access to the supporting analysis, including the weights assigned for each specific waterbody, to be able to understand the decision rationale for the use revisions and to ensure that revisions are consistent with the requirements of the EPA's regulation.

The Wyoming Administrative Procedure Act (APA) requires 45 days public notice (Section 16-3-103), but given this UAA will affect many waters in the state and relies on a highly technical GIS model that will be new to the public, we suggest a minimum 60 day public comment period for this action. We also suggest the public notice be clear that the public may request an opportunity for oral hearing consistent with the Wyoming APA Section 16-3-103(a)(ii)(A).

WDEQ and the Conservation Districts conducted numerous site visits. It would be beneficial if the UAA described where and when these site visits were conducted to better understand how representative they are. For example, it would be useful to know if they were conducted during the recreation season or on the weekend when recreation is more likely. The UAA should describe what effort was made to gather input from people that live near the sites or otherwise identify existing recreation uses, and how WDEQ will address public comments that contradict the model assumptions or results.

### *Incorporation of New Information*

The UAA indicates that datasets used in the model may not be identical to the current dataset of the source entity because some entities periodically update their data. EPA's understanding is that WDEQ's intent is for the model to be static (i.e., will not automatically be updated as the source entities update their data). We suggest the UAA or the public notice clarify this and address how WDEQ intends to incorporate new information and how often these updates would occur. For example, 40 CFR § 131.20(a) requires that waters designated secondary contact be reviewed at least every three years.

### *Rationales for Buffer Distances, Weightings and Recreational Use Number*

The EPA also suggests expanding the discussion of the rationales for the buffer distance and weighting assigned to the various datasets. For example, describing why the National/State Parks, etc. dataset has a smaller buffer distance than the other recreation areas, and why the roads and trails buffer distances are smaller than those for the recreation areas (0.25 mile vs. 2.5 mile) would be useful. Similarly, we suggest further explanation of the rationale for the use of different recreational use number thresholds for forest areas and basin areas.

### *Rationale for Criteria for Default Primary Designation*

The EPA supports the concept of having criteria for default primary designation, and we would like to better understand WDEQ's rationale for some of the criteria, such as the reason for setting the largest stream in a HUC6 to primary contact as a default (as opposed to HUC8 or even lower). Another criterion that would benefit from further discussion in the UAA is the four-acre cutoff for lakes. The rationale for the four-acre cutoff is cited as the Wyoming State Engineers Office size guideline for permitting stock pond reservoirs. We suggest the UAA describe how the size of a stock pond is relevant to evaluation of recreational uses.

### **Conclusion**

WDEQ's UAA approach is novel and we appreciate WDEQ's willingness to address our concerns and continue discussions prior to public notice. The EPA understands the resource constraints that many states are facing and supports the goal of using innovative technologies to inform environmental decisions. We would like to meet to discuss how the draft UAA could be revised to satisfy the regulatory requirements for water quality standards.

Please note that these comments are preliminary in nature and should not be interpreted as final EPA decisions under CWA § 303(c). If you have any questions, please call Tonya Fish on my staff at (303) 312-6832.

Sincerely,

A handwritten signature in black ink, appearing to read "Sandra Spence".

Sandra Spence, Acting Chief  
Water Quality Unit